

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A supported catalyst for producing a syndiotactic styrenic polymer, which comprises:

- (a) [(A)] a support layer [with a high-surface area];
- (b) [(B)] a polymer layer coated onto the support; and
- (c) [(C)] a metallocene catalyst layer [homogeneous transition metal compound as essential component];

Wherein the polymer layer comprises a polymer that (1) has polar groups that insulate the metallocene catalyst from the support, (2) interacts with the surface of the support, and (3) is insoluble in the styrenic monomer or polymerization solvent during use of the supported catalyst during polymerization of styrene monomers to produce syndiotactic styrene polymer [functions an insulation layer between the support and the metal compound].

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2-3. (Canceled)

4. (Currently Amended) The supported catalyst of claim 1 in which said polymer is selected from the group consisting of acrylonitrile-containing polymers and copolymers, hydroxyl group-containing polymer and copolymers, acrylic and acrylate polymers and copolymers, maleic anhydride-containing copolymers and maleic anhydride modified polymers, acetate containing polymers and copolymers, polyethers, polyketones, polyamide polymers and copolymers, and polyurethanes.

5. (Currently Amended) The supported catalyst of claim 4 in which said acrylonitrile-containing polymer or copolymer is selected from the group consisting of polyacrylonitrile, acrylonitrile-styrene block copolymer, styrene-acrylonitrile random copolymer, acrylonitrile-butadiene-styrene resin, acrylonitrile-butadiene random copolymer, and acrylonitrile-isoprene random [copolymer] copolymer.

6. (Original) The supported catalyst of claim 5 in which said styrene-acrylonitrile random copolymer has a degree of polymerization of at least 5 and contains about 0.1 to 100 % by weight of acrylonitrile.

7. (Currently Amended) The supported catalyst of claim 1 in which said polymer is about 0.0001 to 99.999 % by weight of the supported catalyst.

8. (Currently Amended) The supported catalyst of claim 1 in which said support layer is an organic material selected from the group consisting of poly(styrene-co-divinylbenzene) beads, starch powder and polyolefin powder.

9. (Currently Amended) The supported catalyst of claim 1 in which said support layer is an inorganic material selected from the group consisting of silica gel, alumina, silica-alumina gel, zeolites, mica powder, clays, molecular sieves, metal oxide compounds, metal halogenides, metal carbonates and metal powder.

10. (Currently Amended) The supported catalyst of claim 1 in which said metallocene catalyst layer comprises [homogeneous transition metal compound is] a metal compound of Group IVB.

11 – 12 Cancelled.

13. (Currently Amended) The supported catalyst of claim 1 in which said polymer is about 0.0001 to 30 % by weight of the supported catalyst.

14. (Original) The supported catalyst of claim 1 further comprising (d) [(D)] an alkyl aluminoxane and/or (e) an [(E)] alkyl aluminum compound.

15. (Currently Amended) A method of preparing a supported catalyst for producing a syndiotactic styrenic polymer, which comprises:

providing a support precursor by drying a slurry of a support [with a high-surface area], a polymer to be coated onto the support, and a solvent; and
adding a metallocene catalyst [homogeneous transition metal compound] and a solvent to the support precursor.

16. (Original) The method of preparing a supported catalyst according to claim 15, which further comprises:

adding alkyl aluminoxane and/or alkyl aluminum compound to the slurry prior to the second step.

17-19. (Canceled).

20. (New) A supported catalyst comprising:

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a support layer;
a metallocene catalyst layer; and
a polymer layer between the support layer and the metallocene catalyst layer, wherein the polymer layer insulates the metallocene catalyst layer from poisoning the catalytic activity of the metallocene catalyst layer.

21. (New) The supported catalyst of claim 20 in which said polymer is selected from the group consisting of acrylonitrile-containing polymers and copolymers, hydroxyl group-containing polymer and copolymers, acrylic and acrylate polymers and copolymers, maleic anhydride-containing copolymers and maleic anhydride modified polymers, acetate containing polymers and copolymers, polyethers, polyketones, polyamide polymers and copolymers, and polyurethanes.

22. (New) The supported catalyst of claim 21 in which said acrylonitrile-containing polymer or copolymer is selected from the group consisting of polyacrylonitrile, acrylonitrile-styrene block copolymer, styrene-acrylonitrile random copolymer, acrylonitrile-butadiene-styrene resin, acrylonitrile-butadiene random copolymer, and acrylonitrile-isoprene random copolymer.

23. (New) The supported catalyst of claim 22 in which said acrylonitrile-containing polymer or copolymer is a styrene-acrylonitrile random copolymer that has a degree of polymerization of at least 5 and contains about 0.1 to 100 % by weight of acrylonitrile.

24. (New) The supported catalyst of claim 20 in which said polymer is about 0.0001 to 99.999 % by weight of the supported catalyst.

25. (New) The supported catalyst of claim 1 in which said support layer is an organic material selected from the group consisting of poly(styrene-co-divinylbenzene) beads, starch powder and polyolefin powder.

26. (New) The supported catalyst of claim 1 in which said support layer is an inorganic material selected from the group consisting of silica gel, alumina, silica-alumina gel, zeolites, mica powder, clays, molecular sieves, metal oxide compounds, metal halogenides, metal carbonates and metal powder.